- 1. An agent comprising an inner leaflet component and a prosaposin-related polypeptide, wherein said polypeptide has an amino acid sequence selected from the group consisting of:
  - (a) the amino acid sequence set forth in SEQ ID NO:1;
- (b) an amino acid sequence having 80% identity to the amino acid sequence set forth in SEQ ID NO:1, wherein said polypeptide retains plasma-membrane affinity;
  - (c) the amino acid sequence set forth in SEQ ID NO:2; and
- (d) an amino acid sequence having 80% identity to the amino acid sequence set forth in SEQ ID NO:2, wherein said polypeptide retains plasma-membrane affinity.
- 2. The agent of claim 1, wherein said inner leaflet component is phosphatidylserine or a structural analog thereof.
- 3. The agent of claim 2, wherein said phosphatidylserine or structural analog thereof is dioleoylphosphatidylserine.
- 4. The agent of claim 1, wherein the molar ratio of said polypeptide to said inner leaflet component is in the range from about 1:1 to about 1:50.
- 5. The agent of claim 5, wherein the molar ratio of said polypeptide to said inner leaflet component is in the range from about 1:1 to about 1:10.
  - 6. The agent of claim 1 further comprising a pharmaceutically acceptable carrier.
- 7. The agent of claim 1, wherein said agent promotes cell death in hyper-proliferating cells.
- 8. The agent of claim 7, wherein said hyper-proliferating cells are selected from the group consisting of tumor cells and cancer cells.

- 9. A method for modulating the distribution of an inner leaflet component in a plasma membrane of a cell of a subject comprising administering to said subject an agent comprising an inner leaflet component and a prosaposin related polypeptide, wherein said polypeptide has an amino acid sequence selected from the group consisting of:
  - (a) the amino acid sequence set forth in SEQ ID NO:1;
- (b) an amino acid sequence having 80% identity to the amino acid sequence set forth in SEQ ID NO:1, wherein said polypeptide retains plasma-membrane affinity;
  - (c) the amino acid sequence set forth in SEQ ID NO:2; and
- (d) an amino acid sequence having 80% identity to the amino acid sequence set forth in SEQ ID NO:2, wherein said polypeptide retains plasma-membrane affinity.
- 10. The method of claim 9, wherein said inner leaflet component is phosphatidylserine or a structural analog thereof.
- 11. The method of claim 10, wherein said phosphatidylserine or structural analog thereof is dioleoylphosphatidylserine.
- 12. The method of claim 9, wherein the distribution of said inner leaflet component in the outer leaflet of said plasma membrane is altered.
- 13. The method of claim 12, wherein the concentration of said inner leaflet component in said outer leaflet is increased.
- 14. The method of claim 9, wherein the distribution of said inner leaflet component is modulated in hyper-proliferating cells.
- 15. The method of claim 14, wherein said hyper-proliferating cells are selected from the group consisting of tumor cells and cancer cells.
  - 16. The method of claim 9, wherein said method promotes cell death.

## Non-provisional Patent Application Docket No. CHM08-GN003

- 17. A method of modulating tumor volume in a subject, said method comprising administering an agent comprising an inner leaflet component and a prosaposin related polypeptide, wherein said polypeptide has an amino acid sequence selected from the group consisting of:
  - (a) the amino acid sequence set forth in SEQ ID NO:1;
- (b) an amino acid sequence having 80% identity to the amino acid sequence set forth in SEQ ID NO:1, wherein said polypeptide retains plasma-membrane affinity;
  - (c) the amino acid sequence set forth in SEQ ID NO:2; and
- (d) an amino acid sequence having 80% identity to the amino acid sequence set forth in SEQ ID NO:2, wherein said polypeptide retains plasma-membrane affinity.
- 18. The method of claim 17, wherein said agent promotes cell death in hyper-proliferating cells.
- 19. The method of claim 18, wherein said hyper-proliferating cells are selected from the group consisting of tumor cells and cancer cells.
- 20. The method of claim 19, wherein said cancer cells are selected from the group consisting of sarcoma, neuroblastoma, breast carcinoma, and squamous cell carcinoma cells.
- 21. The method of claim 17, wherein said inner leaflet component is phosphatidylserine or a structural analog thereof.
- 22. The method of claim 21, wherein said phosphatidylserine or structural analog thereof is dioleoylphosphatidylserine.
  - 23. The method of claim 17, wherein said subject is a mammal.
  - 24. The method of claim 23, wherein said mammal is a human.

- 25. The method of claim 17, wherein said tumor volume decreases.
- 26. The method of claim 17, wherein the molar ratio of said polypeptide to said inner leaflet component is in the range from about 1:1 to about 1:50.
- 27. The method of claim 26, wherein the molar ratio of said polypeptide to said inner leaflet component is in the range from about 1:1 to about 1:10.
- 28. The method of claim 17, wherein said agent further comprises a pharmaceutically acceptable carrier.
- 29. A method of treating a cancer in a subject, said method comprising administering an agent comprising an inner leaflet component and a prosaposin related polypeptide, wherein said polypeptide has an amino acid sequence selected from the group consisting of:
  - (a) the amino acid sequence set forth in SEQ ID NO:1;
- (b) an amino acid sequence having 80% identity to the amino acid sequence set forth in SEQ ID NO:1, wherein said polypeptide retains plasma-membrane affinity;
  - (c) the amino acid sequence set forth in SEQ ID NO:2; and
- (d) an amino acid sequence having 80% identity to the amino acid sequence set forth in SEQ ID NO:2, wherein said polypeptide retains plasma-membrane affinity..
- 30. The method of claim 29, wherein said inner leaflet component is phosphatidylserine or a structural analog thereof.
- 31. The method of claim 30, wherein said phosphatidylserine or structural analog thereof is dioleoylphosphatidylserine.
- 32. The method of claim 29, wherein the molar ratio of said polypeptide to said inner leaflet component is in the range from about 1:1 to about 1:50.

Non-provisional Patent Application Docket No. CHM08-GN003

- 33. The agent of claim 32, wherein the molar ratio of said polypeptide to said inner leaflet component is in the range from about 1:1 to about 1:10.
- 34. The method of claim 29, wherein said agent further comprises a pharmaceutically acceptable carrier.
- 35. The method of claim 29, wherein said agent promotes cell death in hyper-proliferating cells.
  - 36. The method of claim 35, wherein said cell death occurs through apoptosis.
- 37. The method of claim 35, wherein said hyper-proliferating cells are selected from the group consisting of cancer cells.
- 38. The method of claim 37, wherein said cancer cells are selected from the group consisting of sarcoma, neuroblastoma, breast carcinoma, and squamous cell carcinoma cells.
  - 39. The method of claim 29, wherein said subject is a mammal.
  - 40. The method of claim 39, wherein said mammal is a human.
- 41. The method of claim 29, wherein said agent is administered enterally, parenterally, subcutaneously, intravenously, intraperitoneally, or topically.
- 42. The method of claim 29, wherein multiple doses of said agent are administered to said subject.
- 43. The method of claim 29, wherein a single dose of said agent is administered to said subject.

Non-provisional Patent Application Docket No. CHM08-GN003

- 44. An anti-tumor agent comprising a polypeptide having the amino acid sequence set forth in SEQ ID NO:2 and dioleoylphosphatidylserine.
- 45. The anti-tumor agent of claim 44, wherein the mass ratio of polypeptide to dioleoylphosphatidylserine is approximately 5:1.
- 46. The anti-tumor agent of claim 44, wherein the mass ratio of polypeptide to dioleoylphosphatidylserine is approximately 15:7.
- 47. The anti-tumor agent of claim 44, wherein the mass ratio of polypeptide to dioleoylphosphatidylserine is in the range from about 15:1 to about 3:10.
- 48. The anti-tumor agent of claim 44, comprising approximately 10  $\mu$ M polypeptide and approximately 30  $\mu$ M dioleoylphosphatidylserine.
- 49. The anti-tumor agent of claim 44, comprising approximately 10  $\mu$ M polypeptide and approximately 70  $\mu$ M dioleoylphosphatidylserine.